

FIGURE 1. IDEAL PROJECTILE PATTERN

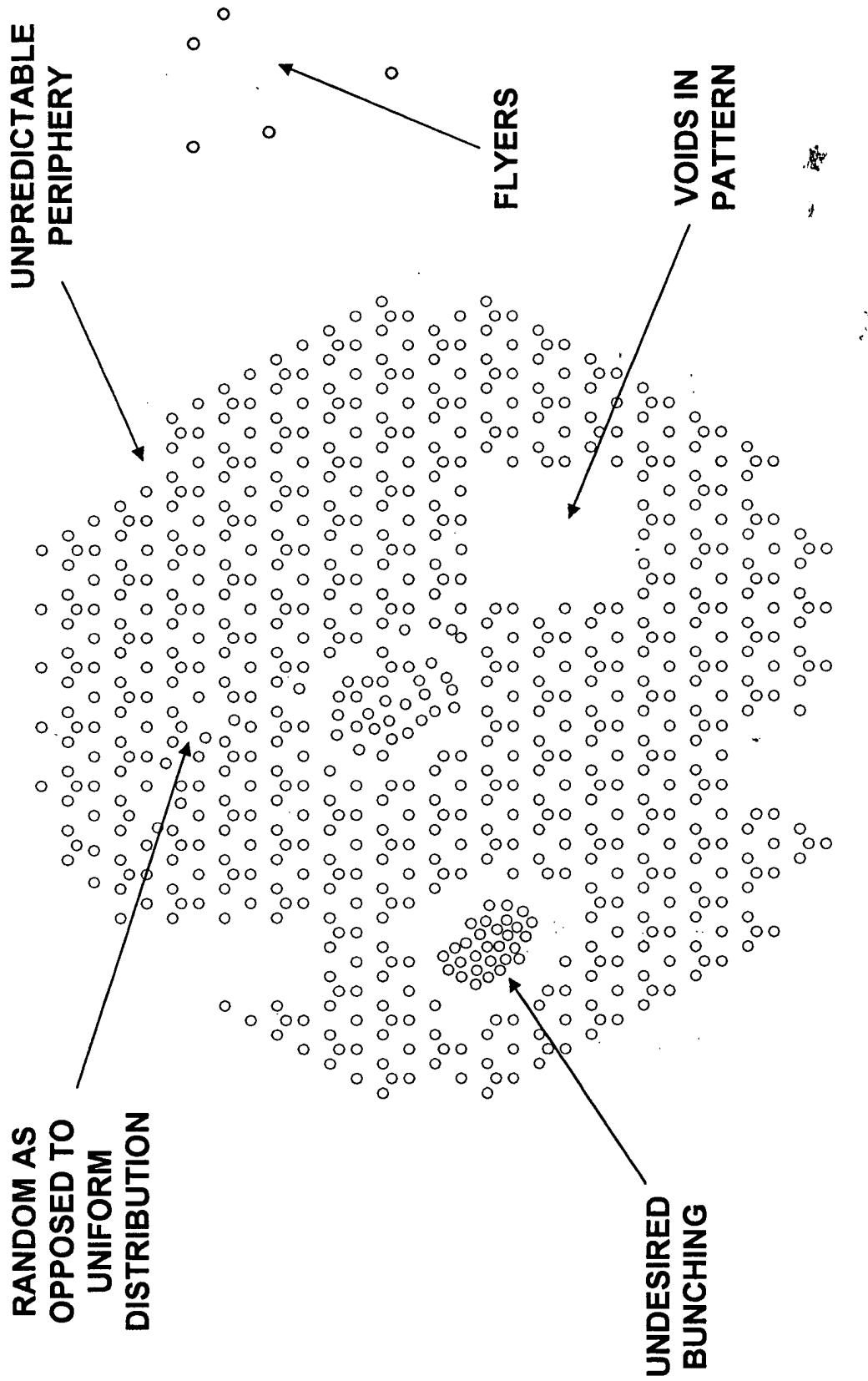


FIGURE 2. PRIOR ART TYPICAL PATTERN

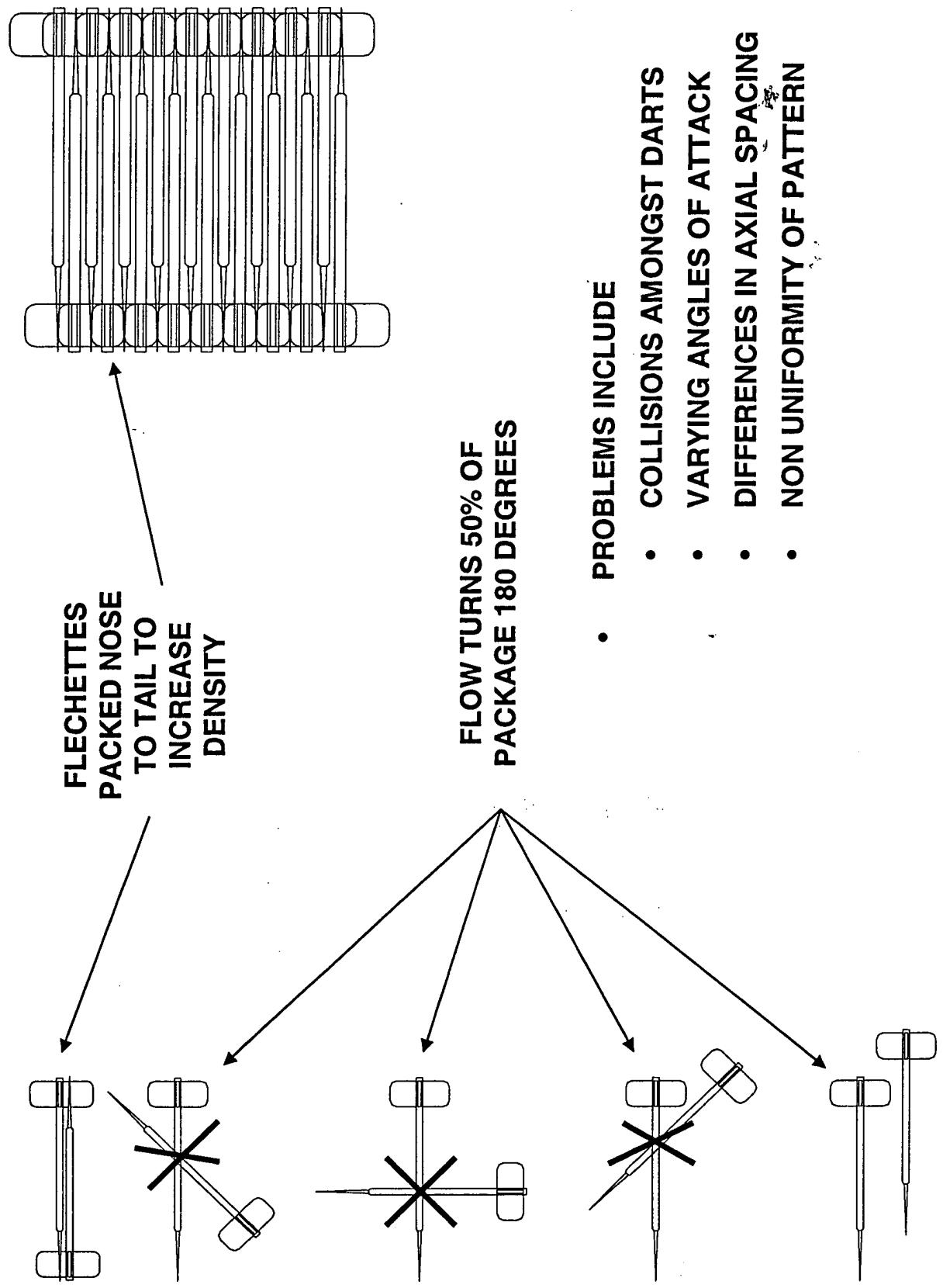
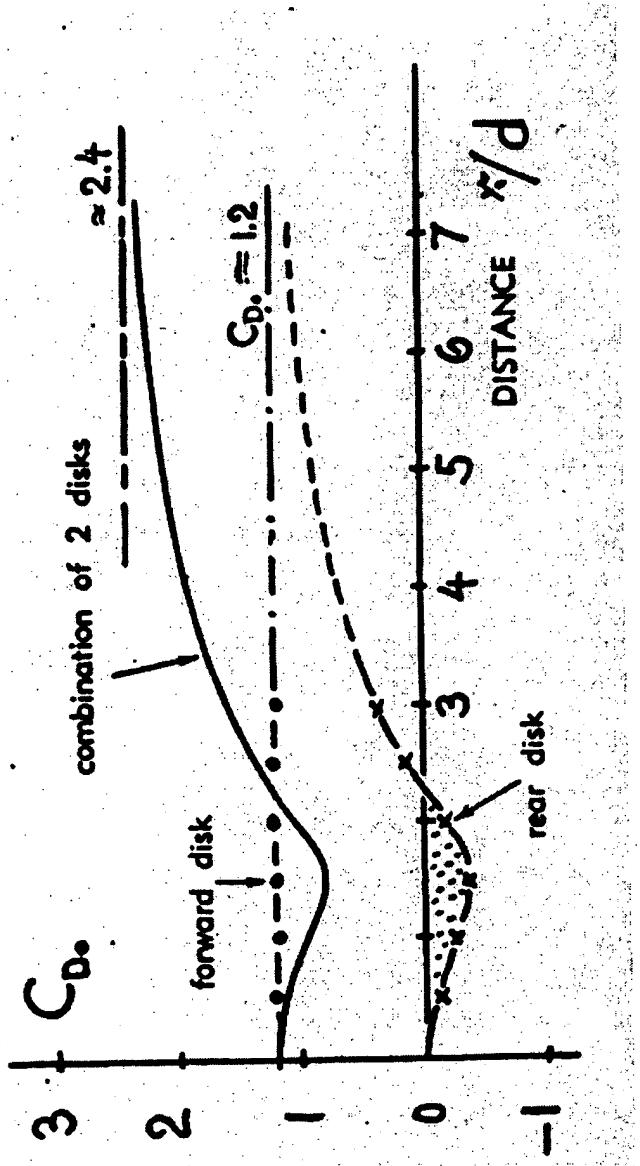


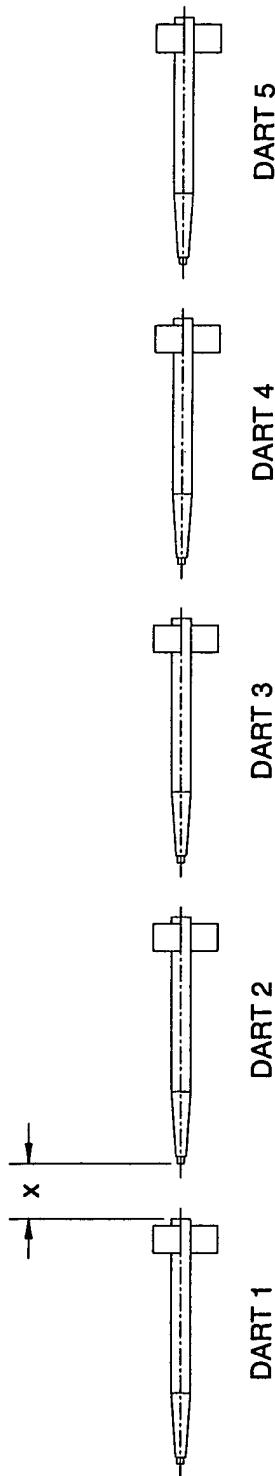
FIGURE 3. NOSE TO TAIL FLECHETTE PACKING



GENERAL TRENDS

- FOR SEPARATIONS WHERE $x/d < 2.2$ THE DRAG ON DISK 2 IS ACTUALLY NEGATIVE
- DRAG ON DISK 2 ASYMPTOTICALLY APPROACHES ITS FREE AIR DRAG AT $x/d = 7$

FIGURE 4. GENERAL DRAFTING TRENDS

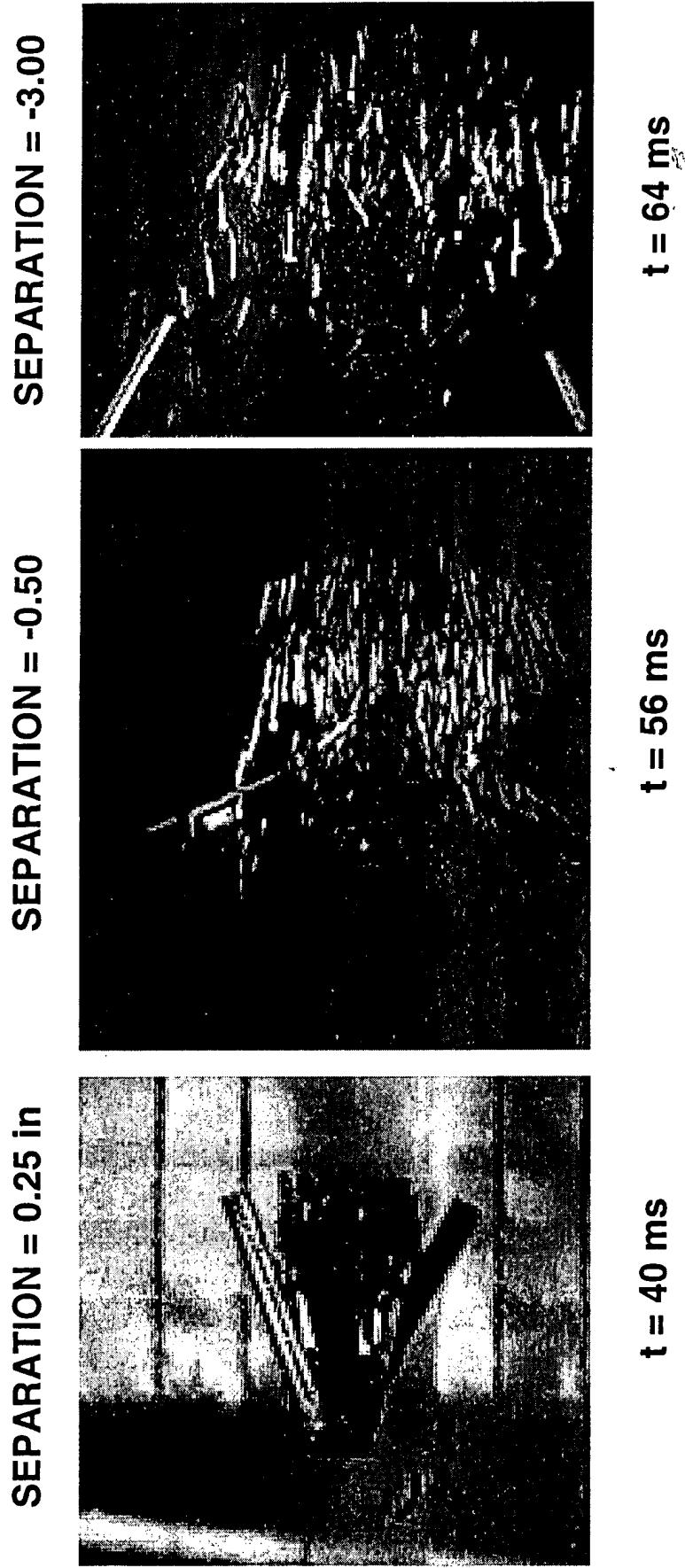


GAP, x (in)	DART 1 DRAG (lb _f)	DART 2 DRAG (lb _f)	DART 3 DRAG (lb _f)	DART 4 DRAG (lb _f)	DART 5 DRAG (lb _f)
0.25	2.1	1.25	1.1	0.9	0.8
1.00	2.1	1.4	1.2	1.1	0.9
2.00	2.1	1.5	1.3	1.2	1.1

Dart Velocity = 1500 ft/sec, Dart Mass = 35 g

FIGURE 5. AERO DRAFTING MODEL RESULTS

FIGURE 6. TEST SHOWING DRAFTING PROBLEM



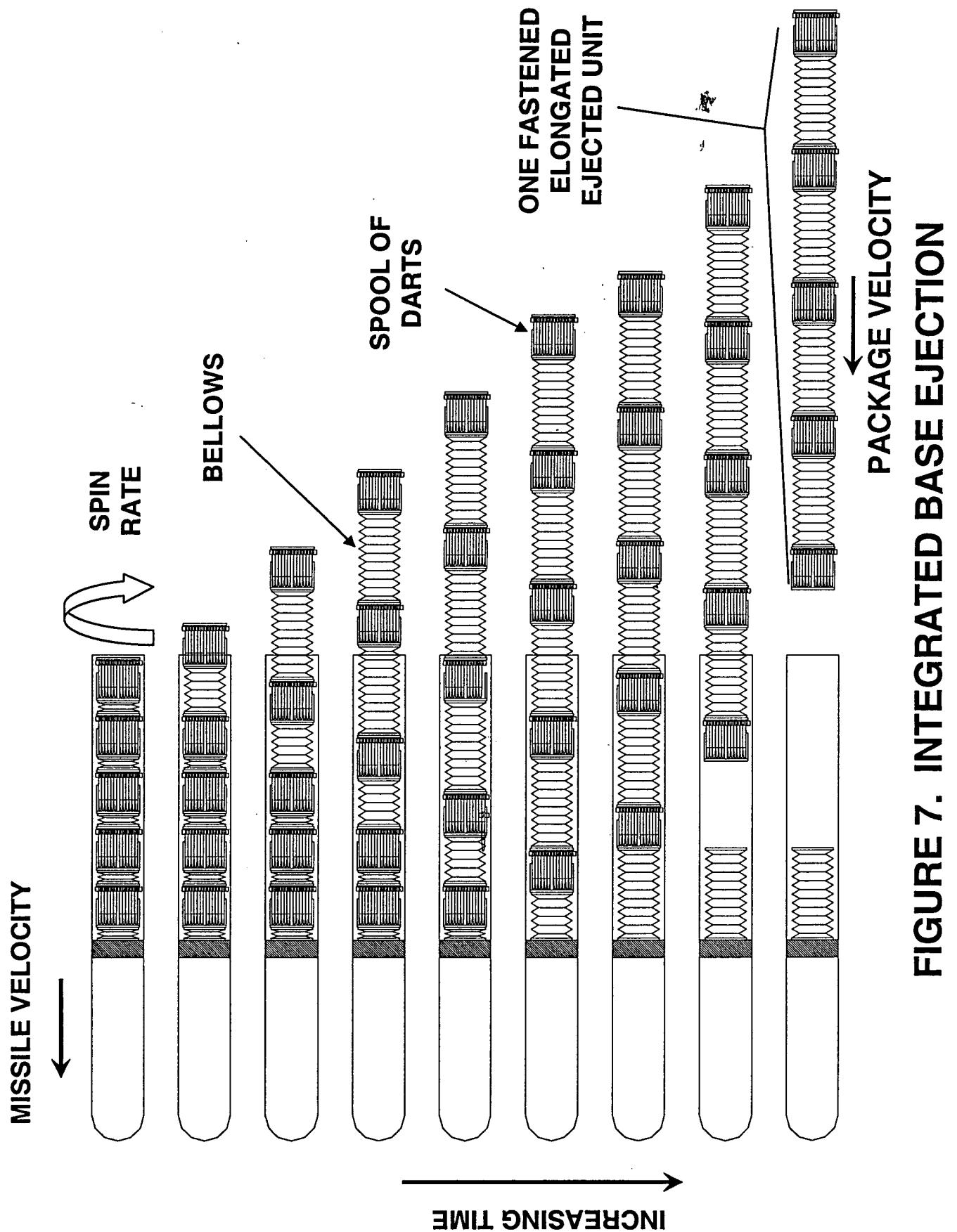


FIGURE 7. INTEGRATED BASE EJECTION

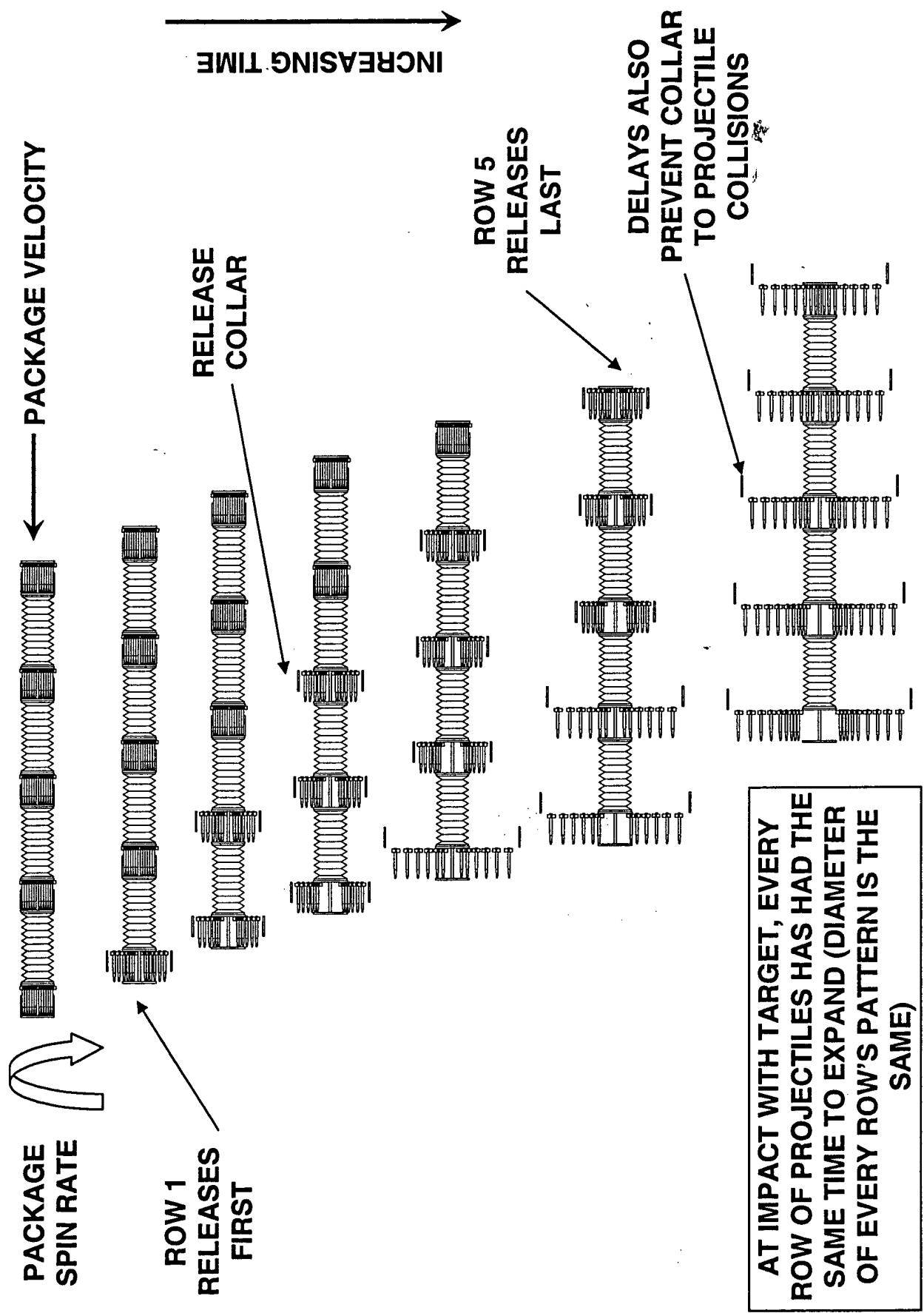


FIGURE 8. DELAYED RELEASE (INTEGRATED)

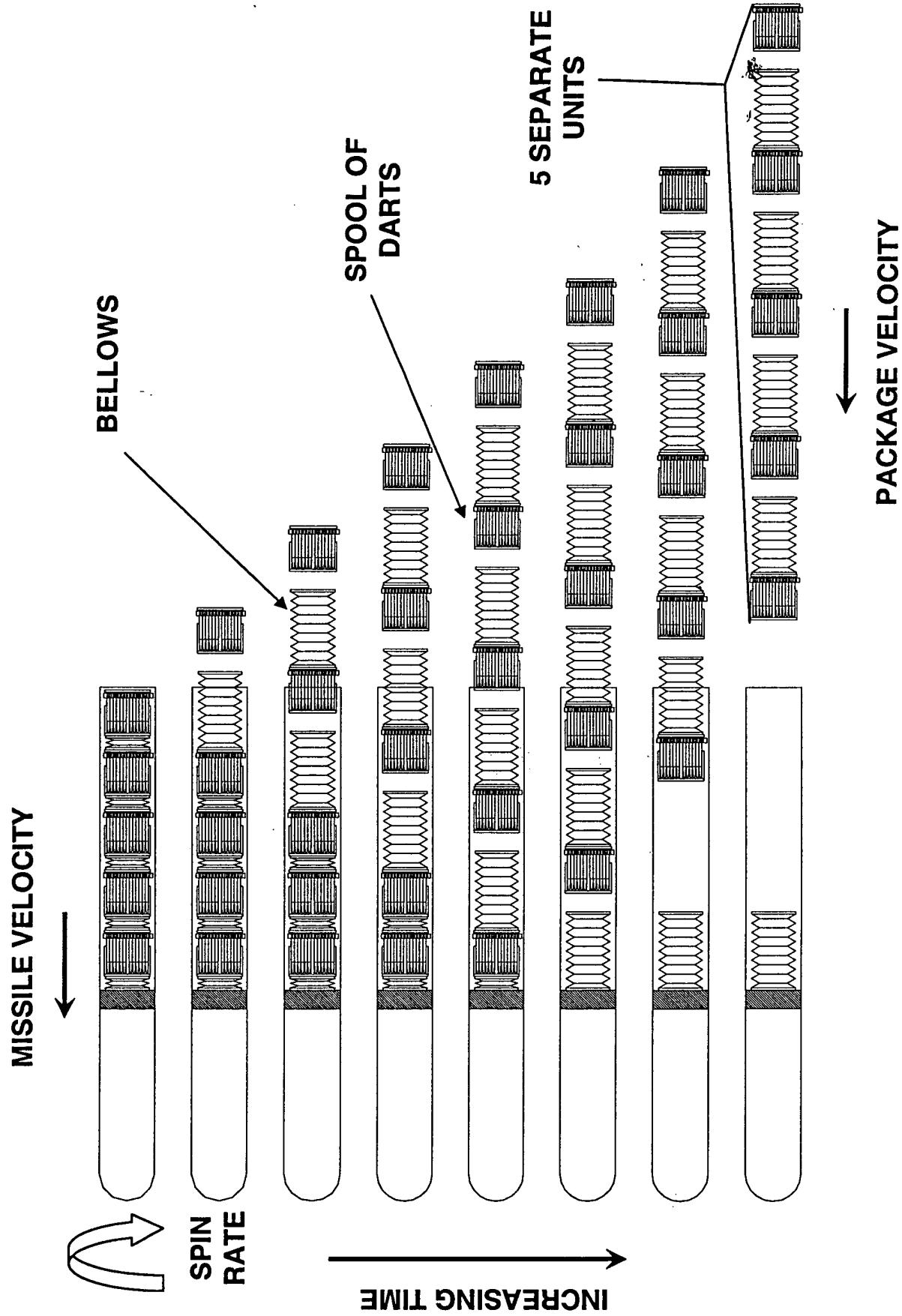


FIGURE 9. DISCREET BASE EJECTION

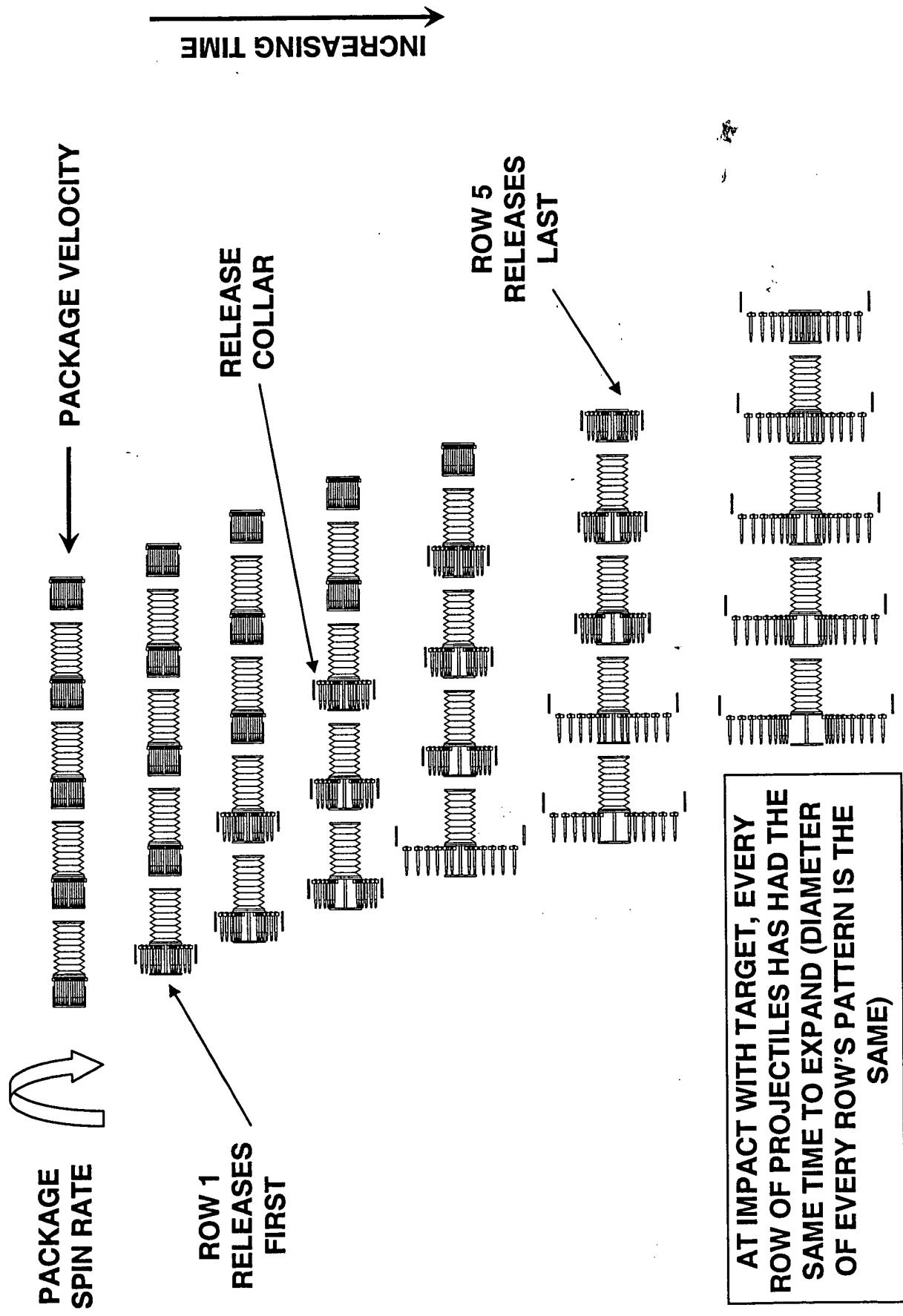


FIGURE 10. DELAYED RELEASE (DISCREET)

TEST ARTICLE SECTIONS

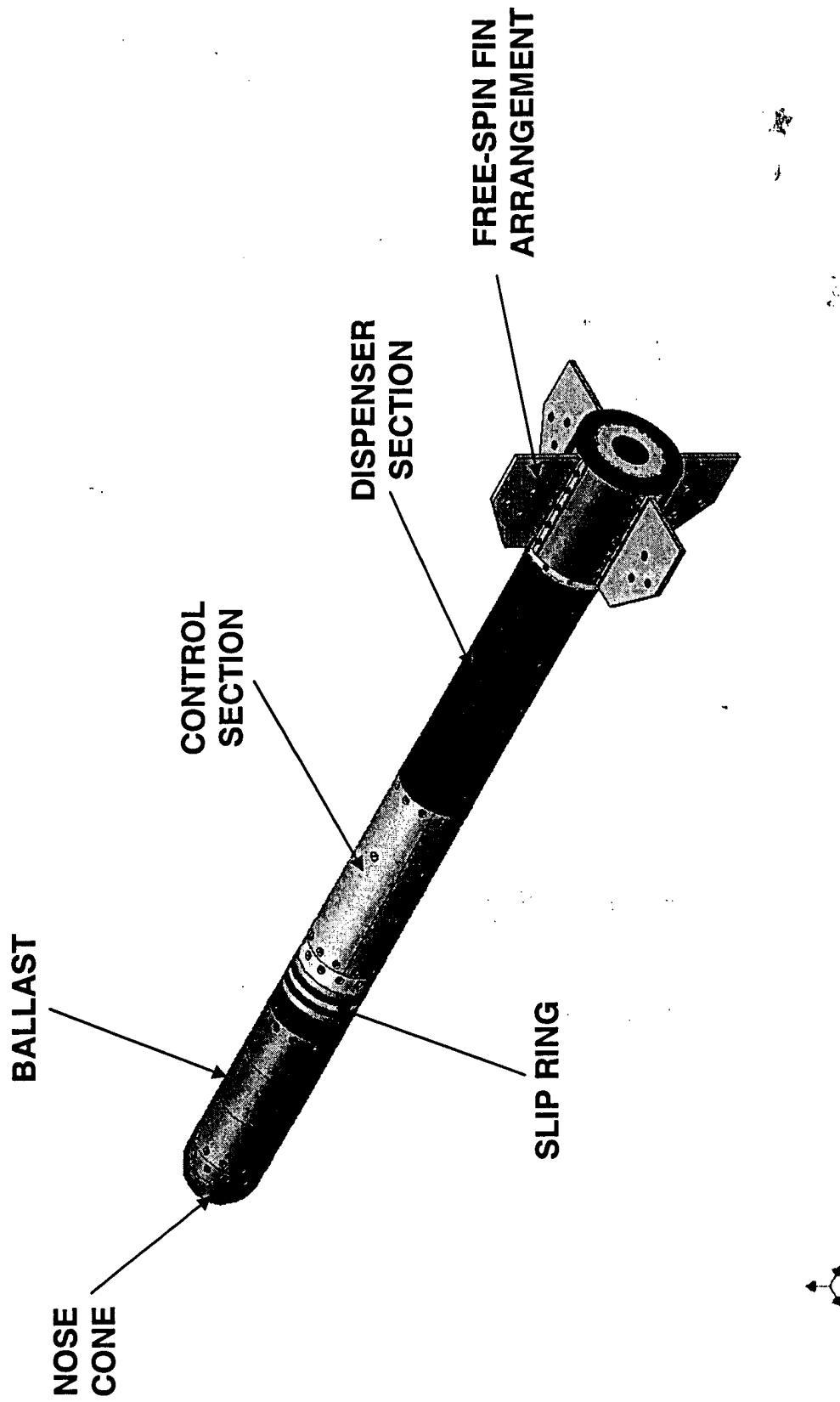


FIGURE 11. HYDRA-7 SLED TEST ARTICLE

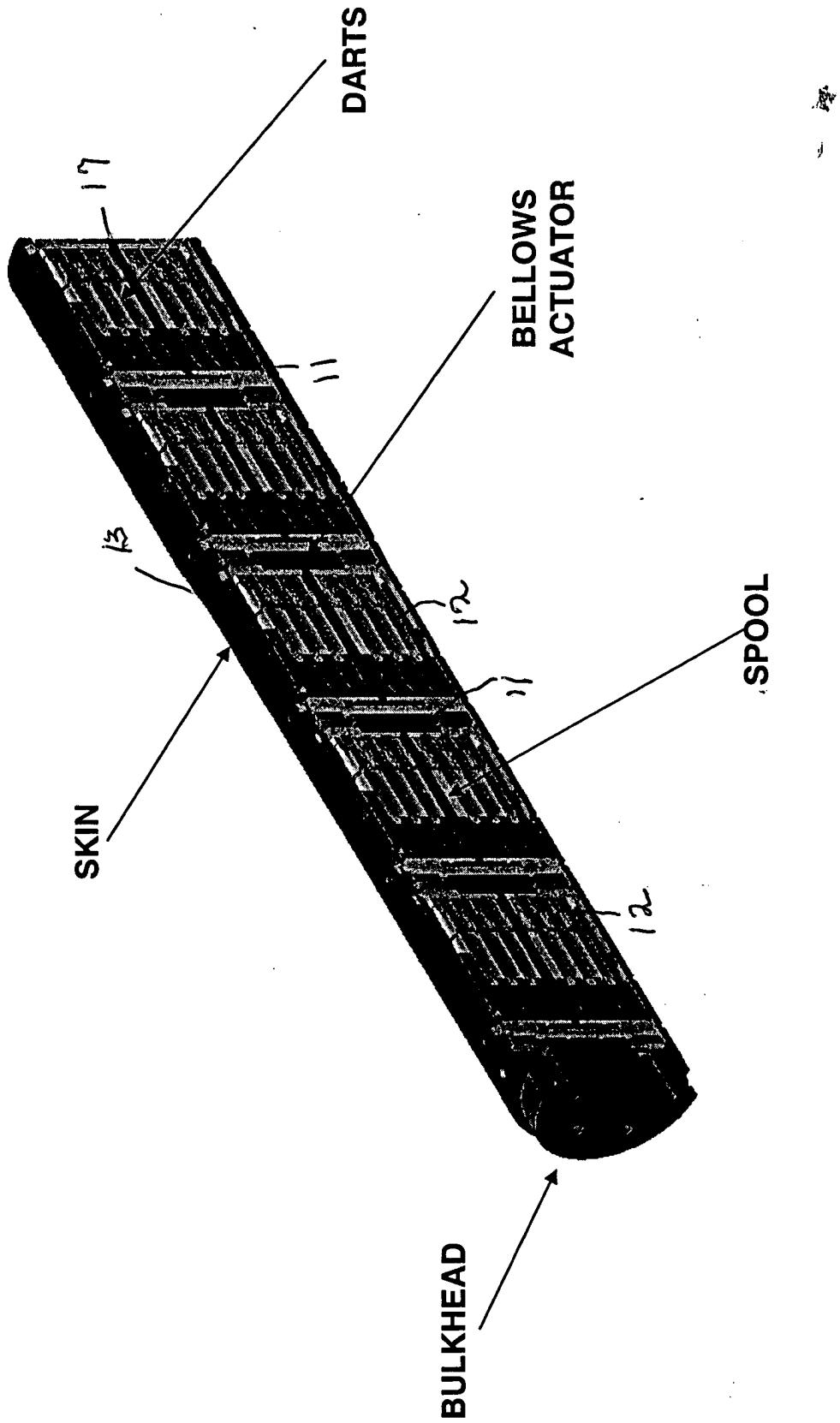
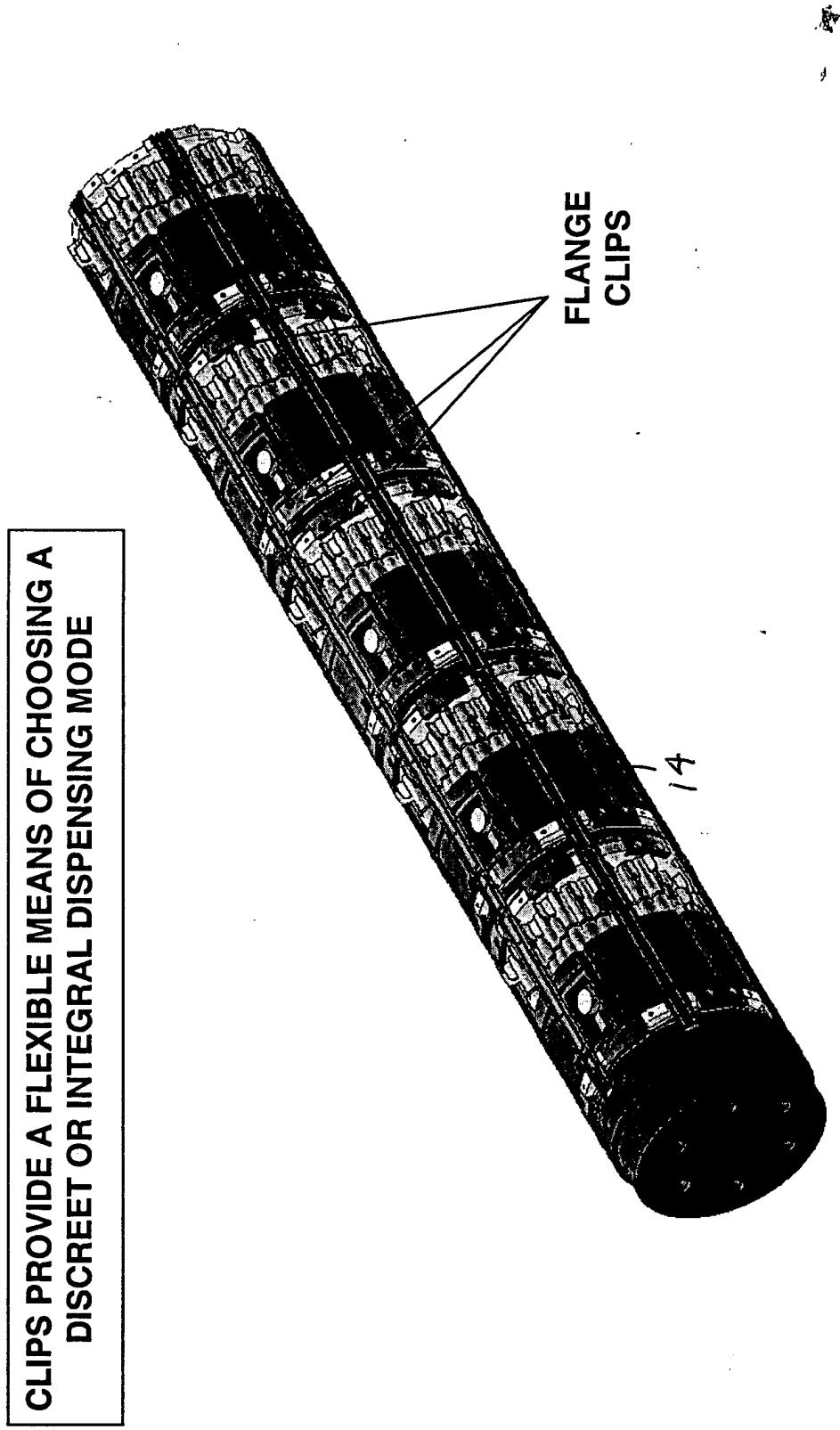


FIGURE 12. DISPENSER INBOARD PROFILE

FIGURE 13. ATTACHMENT METHOD



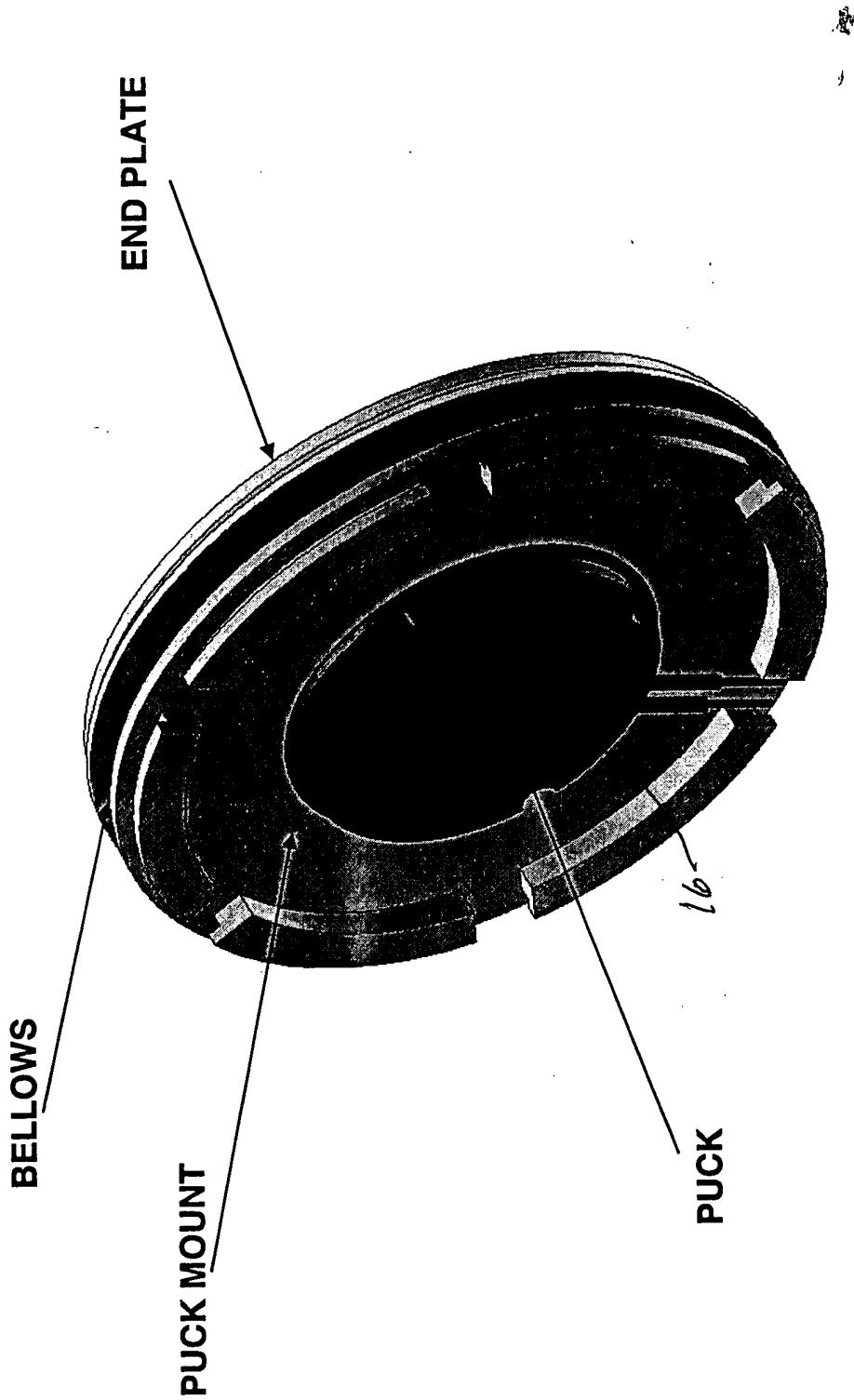


FIGURE 14. ENERGETIC BELLOWS ACTUATOR

SOLID HEIGHT

PARTIALLY EXPANDED

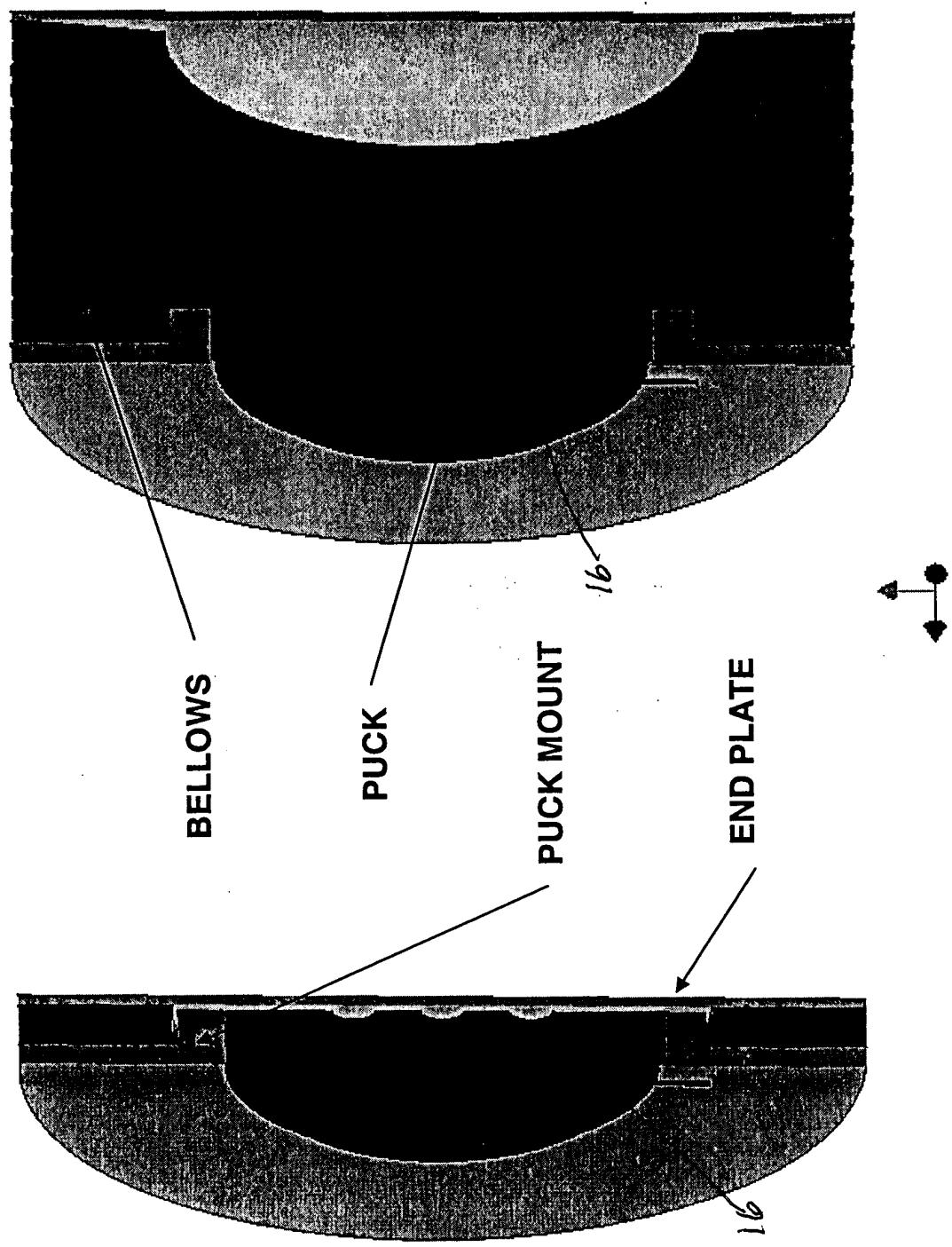


FIGURE 15. SECTIONED BELLOWS ACTUATOR

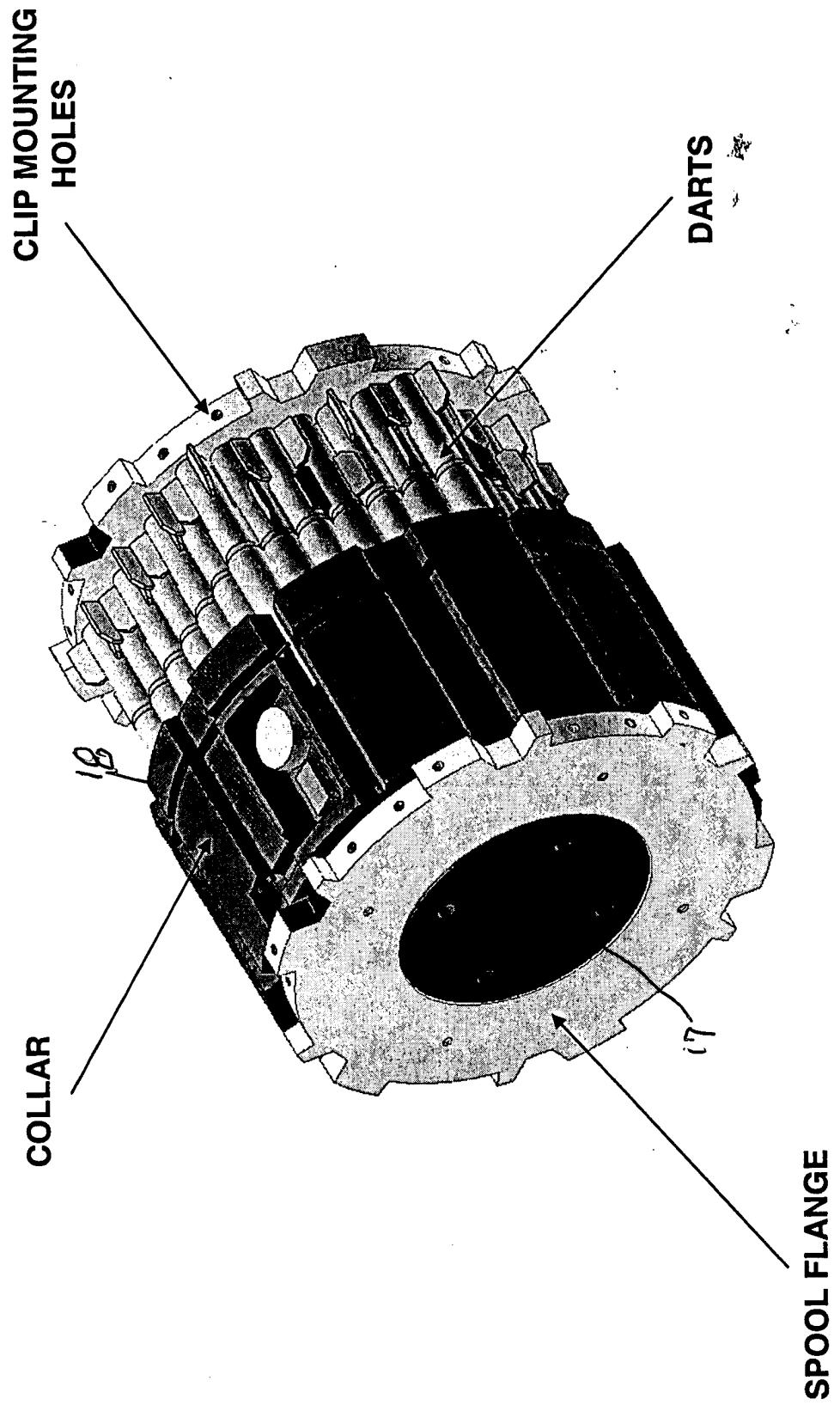
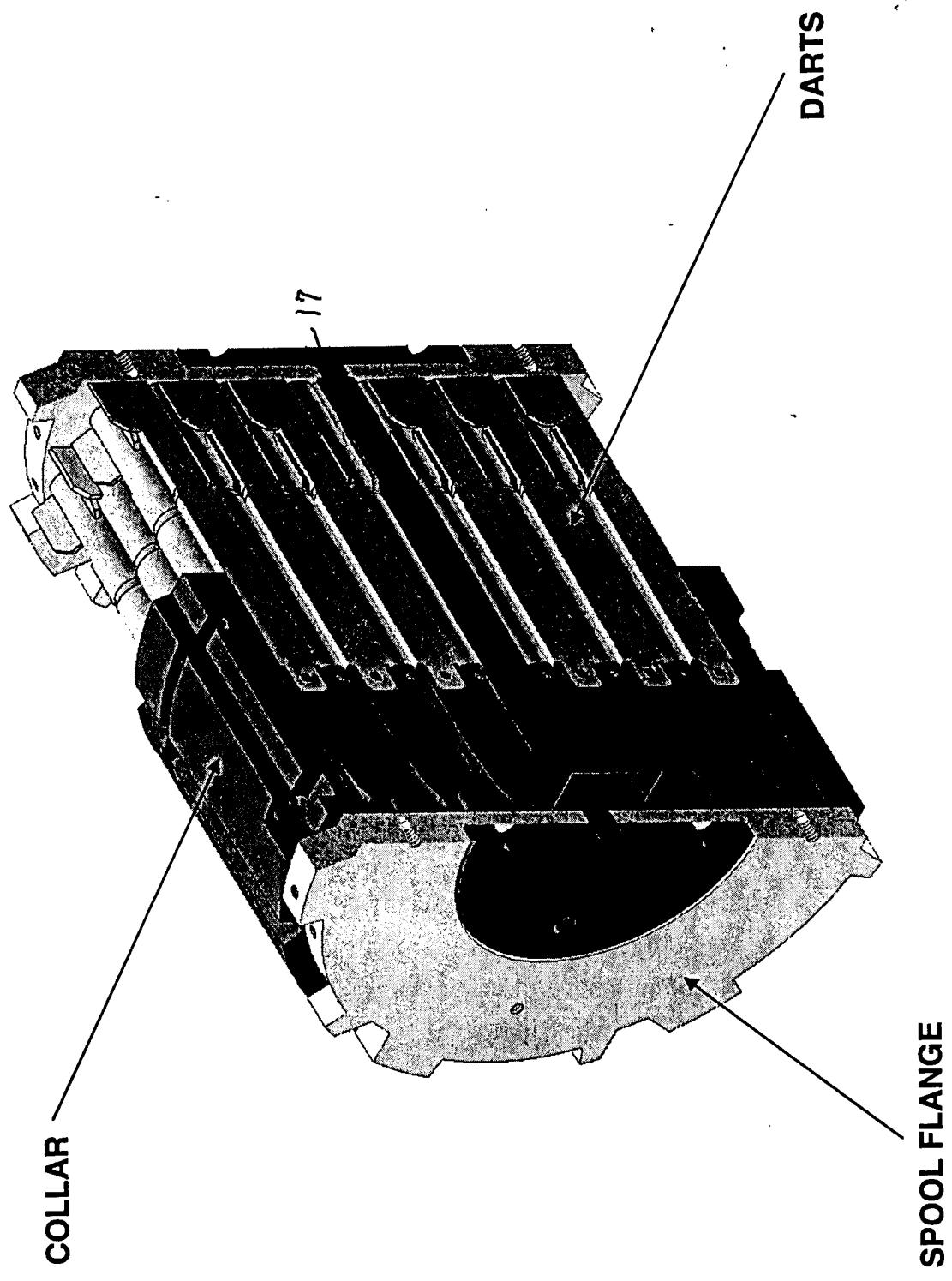


FIGURE 16. SPOOL ASSEMBLY

FIGURE 17. SECTIONED SPOOL ASSEMBLY



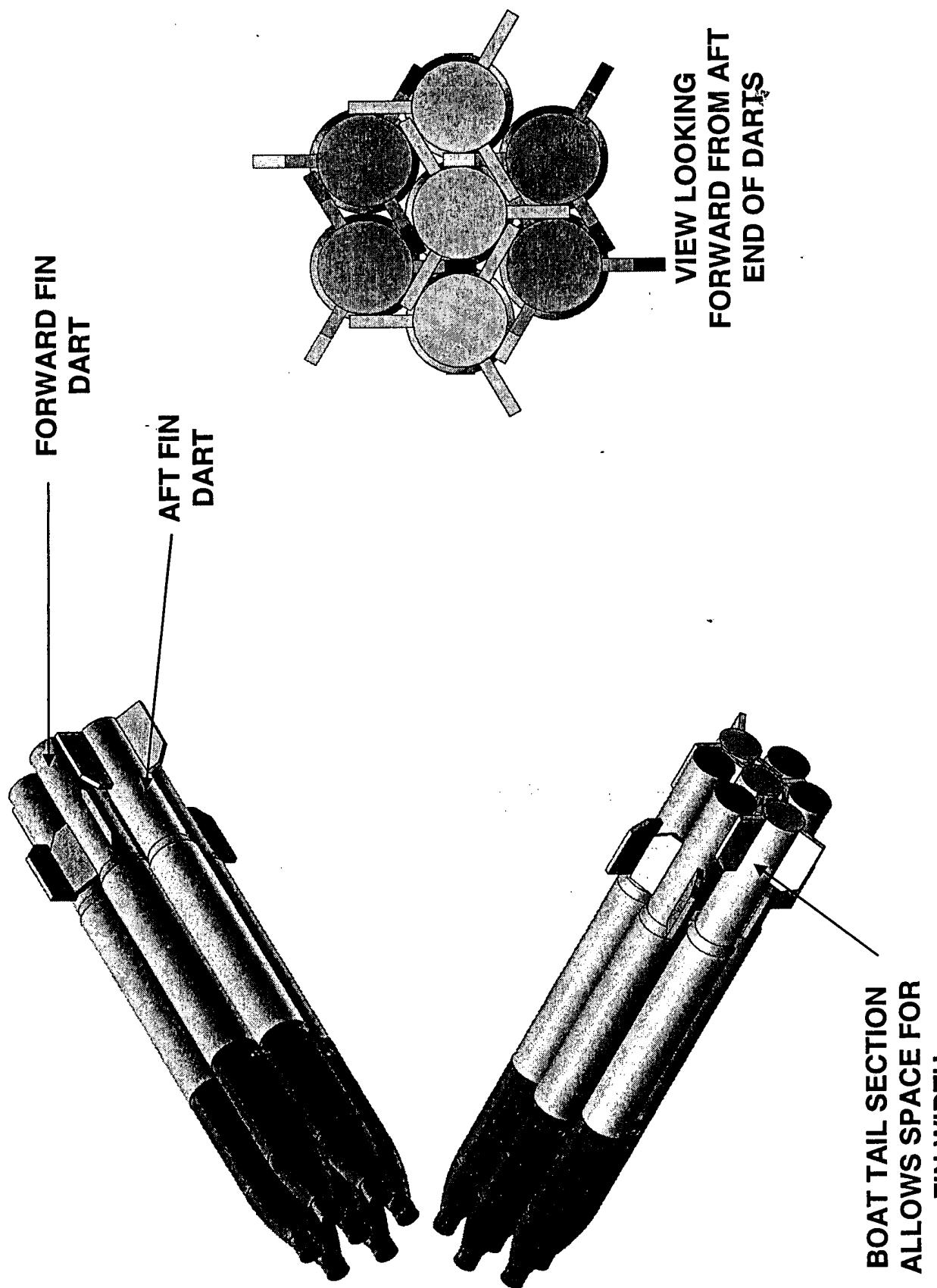


FIGURE 18. TRUE TANGENT PROJECTILE PACKING

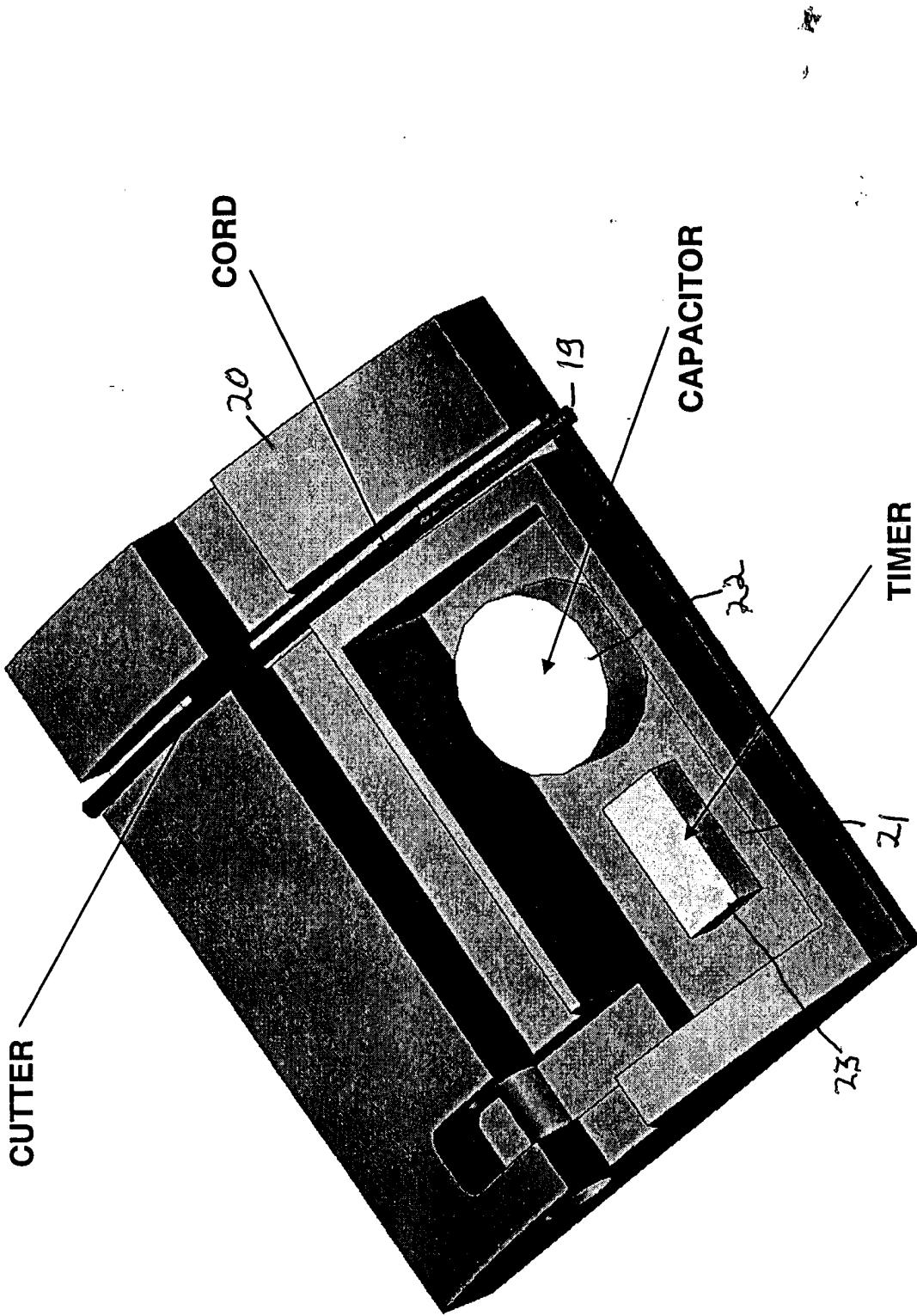
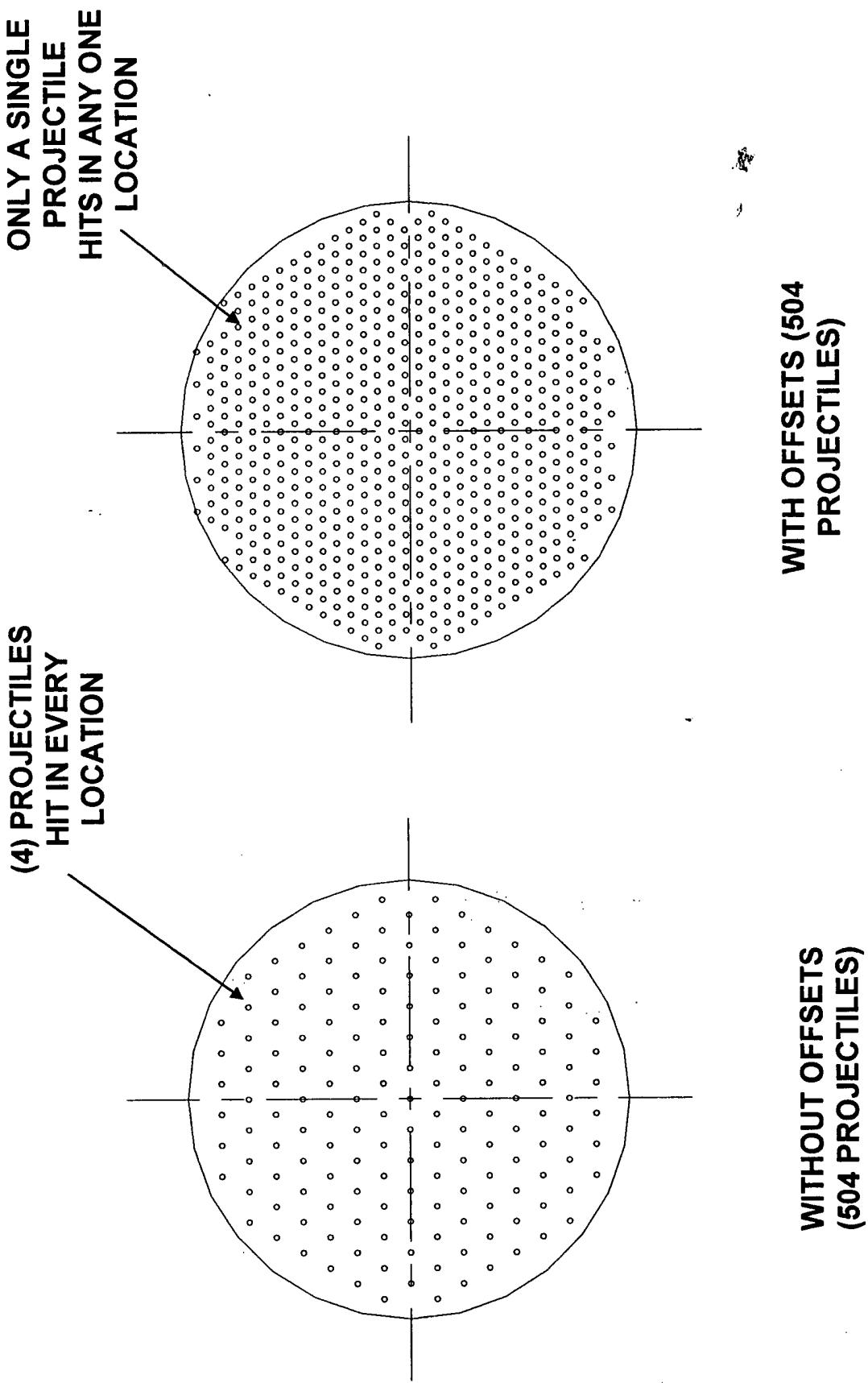


FIGURE 19. SMART COLLAR ASSEMBLY

FIGURE 20. PROJECTILE PATTERNS



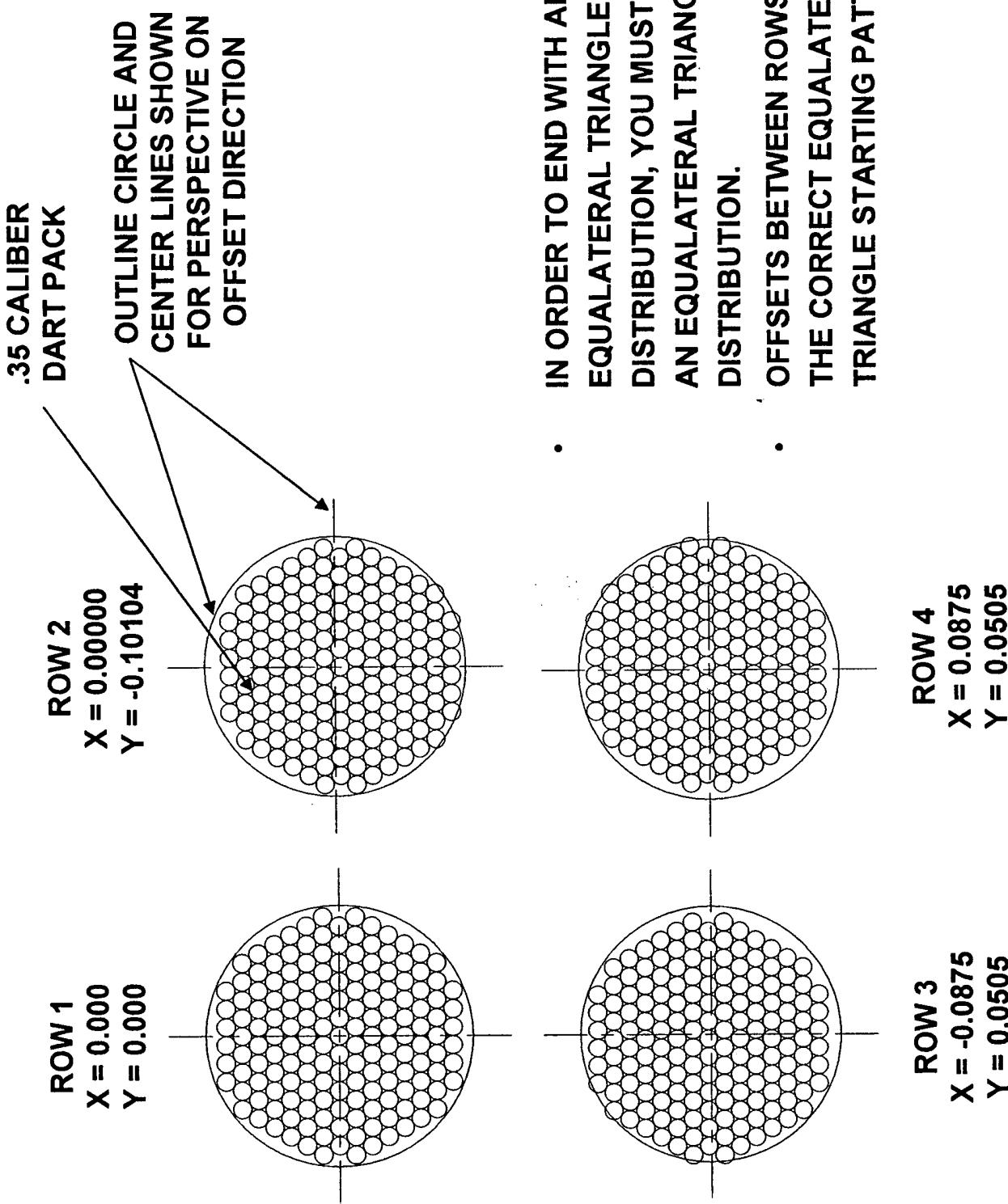


FIGURE 21. PROJECTILE ROW OFFSETS

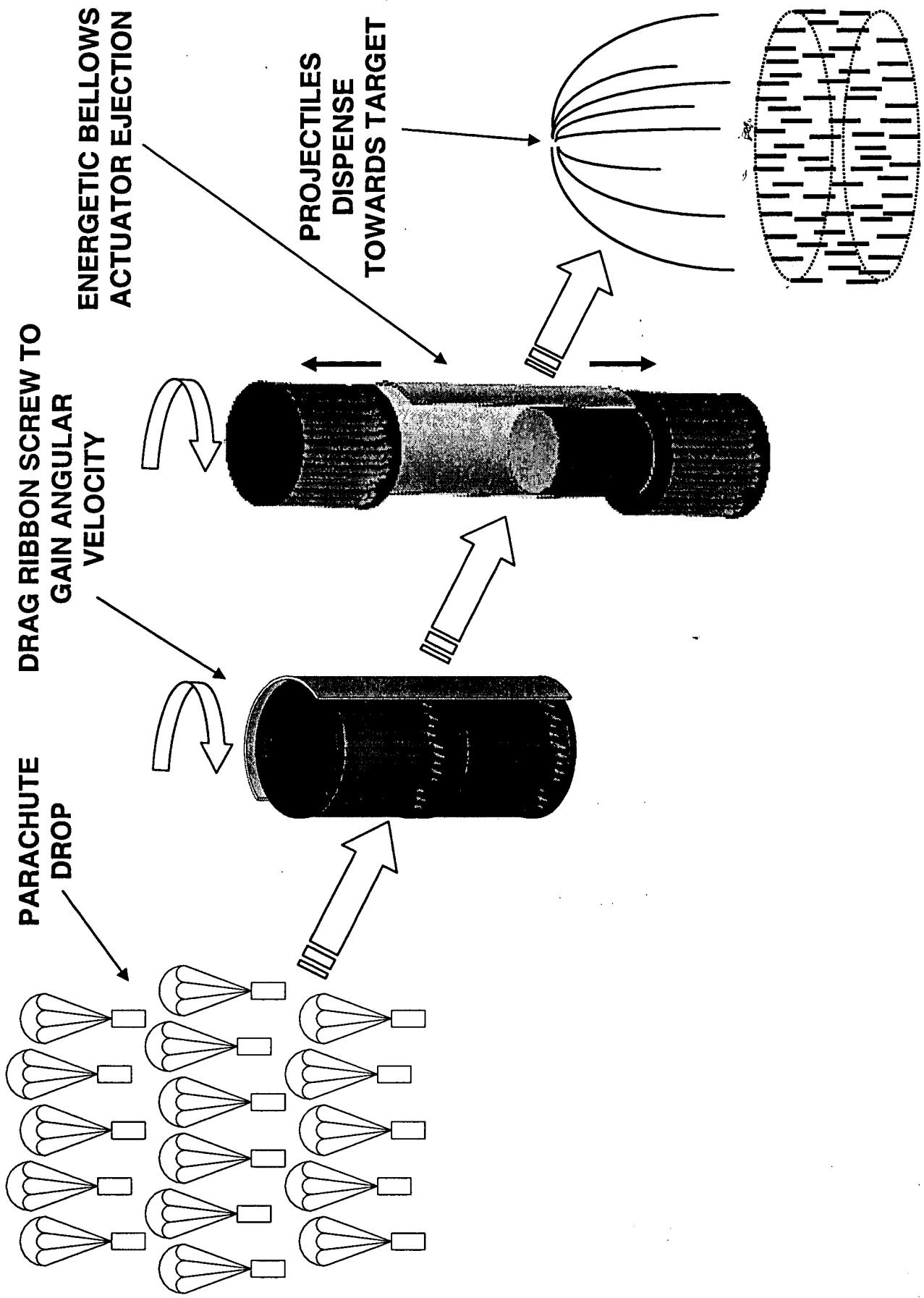


FIGURE 22. SUBMUNITIONS DISPENSER

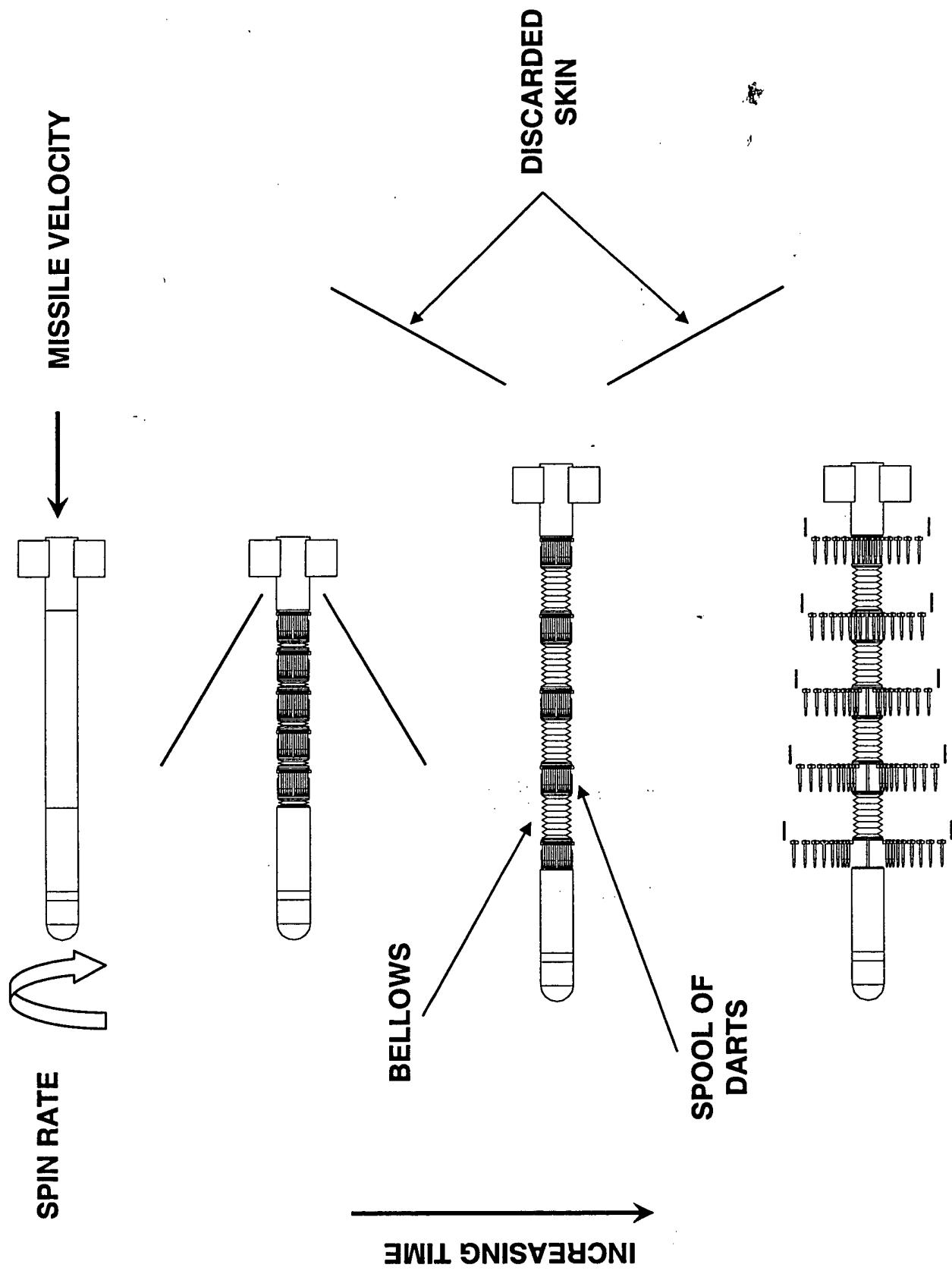


FIGURE 23. MISSILE ELONGATION CONCEPT